IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants: Rohrbach, et al.	)	
	)	Group Art Unit: 1724
Serial No.: 09/867,973	)	
	)	
Filed: May 30, 2001	)	
	)	Examiner: Ivars C.Cintins
For: STAGED OIL FILTER INCORPORATING ADDITIVE-RELEASING PARTICLES	)	

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
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APPEAL BRIEF

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Honeywell International, Inc.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences known to Appellants, Appellants' legal representatives, or assignee that will directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF THE CLAIMS

Claims 1-10 and 13-18 are pending in the application. Claims 1-10 and 13-18 stand finally rejected. Claims 11 and 12 stand canceled. No claims stand objected to, withdrawn, or allowed.

Claims 1-10 and 13-18, as they currently stand, are set forth in Appendix A. Appellants hereby appeal the final rejection of Claims 1-10 and 13-18.

IV. STATUS OF THE AMENDMENTS

No amendments have been filed subsequent to the final rejection dated August 25, 2006. All prior amendments have been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to an oil filter apparatus for use in conjunction with an internal combustion engine (specification, page 1 lines 14-15). The elements of claim 1 are shown in Figures 1, 2, and 4. The oil filter (shown in Figures 1 and 2 as reference number 10 and described in the specification beginning at page 6, line 18; shown in Figure 4 as reference number 210 and described in the specification beginning at page 11, line 13) includes a hollow housing (shown in Figure 1 and 2 as reference number 11 and in Figure 4 as reference number 211) having an inlet (shown in Figures 1 and 2 as reference number 22) and an outlet (shown in Figures 1 and 2 as reference number 24) and defining a chamber (shown in Figures 1 and 2 as

reference number 14 and shown in Figure 4 as reference number 214) therein with a flow path (shown with arrows in Figures 2 and 4 and described in the specification at page 6, lines 19-20) between the inlet and outlet. A mechanically active filter element (shown in Figures 1 and 2 as reference number 15 and in Figure 4 as reference number 215) and a chemically active filter element (shown in Figures 1 and 2 as reference number 16 and in Figure 4 as reference number 216) are disposed inside the housing in the flow path. The chemically active filter element is made up of a plurality of particles (shown in Figure 1 and 2 as reference number 18 and in Figure 4 as reference number 218) including one or more oil extending additives (specification, page 6, lines 21-24). The plurality of particles (18, 218) has an average diameter from 0.1 to 6 millimeters and has interstitial spaces therebetween (specification page 8, lines 12-16). The particles are made primarily of a beneficial additive which is released into the engine oil as the engine oil circulates through the interstitial spaces (specification page 18, lines 1-10). As shown in Figures 1 and 2, oil filter assembly (10) provides for mechanical filtration to take place prior to chemical reaction of unwanted contaminants from the oil with the beneficial additive of the chemical filter element (16) (specification, page 7, lines 21-24). Distinguishably, as shown in Figure 4, oil filter assembly (210) provides for chemical reaction of unwanted contaminants which may be present in the oil with the beneficial additive of the chemical filter element (216) prior to mechanical filtration (specification, page 12, lines 9-11).

Claim 3 depends from and recites all of the limitations of claim 1. The particles (18, 218) recited in claim 3 further comprise a polymeric binder selected from the group consisting of polyamides, polyimides, polyesters, polyolefins, polysulfones, and mixtures thereof (specification, page 9, lines 15-16).

Claim 4, also depending from claim 1, recites an oil filter (10) wherein the mechanically active filter (15) is substantially cylindrical in shape and the chemically active filter (16) is also substantially cylindrical in shape (specification, page 7, lines 16-20). In this embodiment the chemically active filter is disposed radially and coaxially inside the mechanically active filter (specification, page 7, lines 18-20).

Dependent claim 17 recites the oil filter of claim 1, and further claims that the beneficial additive comprises an antioxidant that is at least one of the group consisting of imidazoline-phosphonate salts, substituted triazoles, sulfurized carboxylates, phenolic compounds, arylamino

compounds, substituted thiazoles, substituted thiadiazoles, phosphosulfurized olefins, zinc dithiophosphates, and zinc dialkyldithiophosphates, aromatic sulfides, aromatic polysulfides, alkyl sulfides, alkyl polysulfides, sulfurized olefins, sulfurized carboxylic acid esters, sulfurized ester-olefins, and mixtures thereof (specification, page 9, lines 4-9).

In another embodiment, set forth in independent claim 7, an oil filter is provided which has all the elements of the embodiment recited in claim 1 but additionally defines the configuration and placement of the respective mechanical and chemical filters and related components (specification, page 12, lines 19-23). The elements of claim 7 are shown in Figures 1, 2, 5, and 6.

In this embodiment, an oil filter, shown in Figure 5 as reference number (310), comprises a hollow housing (311) having a tapping plate (shown in Figure 1 and 2 as reference number 20, described in the specification at page 7, line 9) for placement proximate an engine surface. The tapping plate (20) has an outlet aperture (shown in Figures 1 and 2 as reference number 24, described in the specification at page 7, line 11) formed therethrough and an inlet aperture (shown in Figures 1 and 2 as reference number 22, described in the specification at page 7, lines 9-10) formed therethrough and spaced apart from the outlet aperture (24). A mechanically active filter element, as shown in Figure 5 as reference number 315, is disposed within the housing and spaced away from the tapping plate. A substantially cylindrical dividing wall (labeled as reference number 403 in Figure 6, not numbered in Figure 5) is disposed within the housing adjacent to the tapping plate. The dividing wall defines an inlet flow channel (shown with arrows in the Figures) on the outside thereof within the housing and in fluid communication with the inlet aperture of said tapping plate. The dividing wall further defines an outlet flow channel therein in fluid communication with the outlet aperture of the tapping plate. A chemically active filter member is disposed within the inlet flow channel of the housing between the tapping plate and the mechanical filter element. The chemically active filter member (316) comprises a plurality of particles (318) retained in the oil filter (310) and having a diameter in a range of 0.1 to 6 millimeters (specification page 6, line 16 to page 7, line 15). The particles consist essentially of a beneficial additive to interact with engine oil as the engine oil circulates through the filter, the beneficial additive consisting essentially of an antioxidant, a basic salt, or a mixture of a basic salt and an antioxidant, said antioxidant being selected from the group consisting of imidazoline-

phosphonate salts, substituted triazoles, sulfurized carboxylates, phenolic compounds, arylamino compounds, substituted thiazoles, substituted thiadiazoles; phosphosulfurized olefins, zinc dithiophosphates, and zinc dialkyldithiophosphates, aromatic sulfides, aromatic polysulfides, alkyl sulfides, alkyl polysulfides, sulfurized olefins, sulfurized carboxylic acid esters, sulfurized ester-olefins, and mixtures thereof (specification page 9, lines 4-9).

Independent claim 13 is directed to a supplemental cartridge to be used in conjunction with an oil filter (specification, page 14, lines 7-10). As shown in Figure 6, the supplemental cartridge (404) comprises a hollow housing (405) having a tapping plate (407) for placement proximate an engine surface (specification, page 14, line 19- 25). The tapping plate has an outlet aperture (434) formed substantially centrally therethrough and an inlet aperture (432) formed therethrough and spaced apart from the outlet aperture (Figure 6; specification, page 15, lines 4-10). A cover plate or cap (408) is disposed opposite the tapping plate for placement proximate an oil filter, the cap having an inlet aperture formed substantially centrally therethrough and an outlet aperture (412) formed therethrough and spaced apart from the inlet aperture (specification, page 15, lines 1-4). An outer wall (406) connects the cap and the tapping plate (specification, page 14, lines 22-25). A substantially cylindrical dividing wall (403) is disposed within the housing and separates the housing interior, as shown by arrows in Figure 6, into an inlet flow channel in fluid communication with the inlet aperture of the tapping plate, and an outlet flow channel in fluid communication with the outlet aperture of the tapping plate (specification, page 15, lines 12-15). Also included is a chemically active filter (416) which is disposed within the inlet flow channel of the housing (specification, page 14, beginning at line 14). The chemically active filter comprises a plurality of particles (418) having a diameter in a range of 0.1 to 6 millimeters, and consisting essentially of a beneficial additive, the beneficial additive consisting essentially of at least one of an antioxidant, or a mixture of a basic salt and an antioxidant (specification, page 8, lines 12-13 and line 20 to page 9, line 9). This design ensures that oil will pass through the chemically active filter before it reaches the mechanical filter and provide more and longer lasting interaction between the oil and chemical filter (specification page 16, lines 13-16).

Claim 16 depends from claim 13 and recites a supplemental cartridge (404), shown in Figure 7, that further comprises an auxiliary inlet tube (437, 438) attached to the outer wall (406) of the

housing (411) and being in fluid communication with the inlet flow channel thereof. This embodiment also comprises an auxiliary outlet tube (437, 438) attached to the outer wall of the housing which is in fluid communication with the interior thereof.

Independent claim 18 is directed to an oil filter having a chemically active filter comprising a plurality of particles retained in said oil filter, wherein particles comprise from 90 to 97% by weight of a beneficial additive to be released into engine oil as the engine oil circulates through the oil filter, based on the total solid weight of the particles (specification, page 8, lines 9-11; page 10, lines 13-14). The beneficial additive comprises at least one of an antioxidant, an anti-wear agent, a basic salt, or a mixture thereof (specification, page 8, line 23 to page 9, line 1). This embodiment, as shown in any of the Figures and particularly Figures 1, 2 and 4, comprises a housing (11) defining an inlet fluid opening (22) and an outlet fluid opening (24). The inlet fluid opening and outlet fluid opening define a fluid path (shown by arrows in Figures 2 and 4) through the housing. A mechanically active filter (15) is disposed inside the housing and in the fluid path such that fluid flowing through the fluid path must pass through said mechanically active filter member. A chemically active filter member (16) is disposed inside the housing and in the fluid path such that fluid flowing through the fluid path must pass through the chemically active filter member (Figures 1, 2 and 4; specification, page 6, lines 18 to page 7, line 15; page 11, line13 to page 12, line 18).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 1, 2, 5-10 and 18 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 5,069,799 to Brownawell et al. (hereafter Brownawell).

B. Claims 3, 13-15 and 17 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Brownawell and further in view of U.S. Patent No. 4,144,166 to DeJovine (hereafter DeJovine).

C. Claim 4 stands rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Brownawell and further in view of U.S. Patent No. 5,725,031 to Bilski et al. (hereafter Bilski).

D. Claim 16 stands rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Brownawell, DeJovine, and further in view of U.S. Patent No. to Robers et al. (hereafter Robers).

VII. ARGUMENT

A. Claims 1, 2, 5-6 and 18 are Non-Obvious over Brownawell.

1. Claims 1, 2 and 5-6

Brownawell describes filter system for lubricating oil that requires three different types of filter media, i.e., chemically active filter media, physically active filter media and inactive filter media (Abstract). The chemically active filter media is filter media that chemically interacts with the lubricating oil by process such as chemical adsorption and acid/base neutralization. The physically active filter media interacts with the lubricating oil in non-chemical ways such as physical adsorption. The inactive filter media removes particulates (col. 1, lines 55-65). The chemically active filter media can be supported on a substrate or unsupported. When supported on a substrate the substrate may be in the form of pellets, cylinders or spheres (col. 1 line 66 to col. 2, line 8). The physically active filter media may use the same substrates as the chemically active filter media as well as attapulgus clay, dolomite clay and molecular sieves (col. 4, lines 16-19). The physically active filter media may be mixed, coated or impregnated with one or more additives normally present in lubricating oil. These additives are oil soluble and will be slowly released into the oil to replenish the additives in the oil as they are depleted (col. 4, lines 20-34). Brownawell teaches that better oil flow distribution is obtained with a two stage filter design. Brownawell further teaches a preference for the active media to be arranged in a "deeper bed" because a deeper depth is more effective for chemical and physical limitations than a shallow bed depth (col. 6, lines 37-45).

a. Brownawell does not disclose Applicants' claimed chemically active filter member and thus fails to disclose all of the required claim limitations.

As noted above, Brownawell teaches three separate types of filter media – chemical, physical and inactive. However, Brownawell fails to teach Applicants' chemically active filter member as instantly claimed. In the pending claims, Applicants'chemically active filter member

releases beneficial additives – combining the function of both Brownawell's physcial filter media and chemical filter media. Thus the pending claims provide a single filter member that is both chemically active and releases beneficial additives – as opposed to the two types of filter media that are required by Brownawell to do these jobs. That is, Applicants' chemically active filter member provides the functions of Brownawell's chemically active filter media as well as Brownawell's physically active filter media.

Thus, Brownawell fails to disclose a single filter member/media that performs both functions and as such Brownawell does not teach each and every element of the claims. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

b. The Examiner has used hindsight in attempting to argue that Brownawell discloses all of the required claim limitations.

Brownawell also fails to teach or disclose the instantly claimed average particle size for either the chemically active filter media or the physically active filter media. The Examiner has asserted that choosing particles having an average particle size of 0.1 to 6 millimeters would be obvious to facilitate handling of the treatment material. The Examiner has further asserted that

> "... the particles in the chemically active filter member of this reference device must inherently have some average diameter. One of ordinary skill in the oil treatment art would readily recognize that particles having an average diameter significantly below 0.1 millimeters could cause handling problems in the reference device, since powders are more difficult to handle than are larger granules. One of ordinary skill in the oil treatment art would also readily recognize that particles having an average diameter significantly above 6 millimeters could cause problems in the reference device, *since the interstitial space between these particles could be too great to produce adequate contact between the chemically active media and the oil undergoing treatment.* Accordingly, this skilled artisan would have been motivated to select particles having an average diameter within

the recited range, in order to avoid the above noted problems.

(Office Action of 8/25/2006, page 5, emphasis added)

Appellants must respectfully note that these statements could not have been made in the absence of Appellants' teachings and are nowhere provided for in Brownawell.

For example, the PTO provides no support for its conclusion that "*the interstitial space between these particles could be too great to produce adequate contact between the chemically active media and the oil undergoing treatment.*" Where, other than Appellants' teachings, does one of skill in the art find any such teaching? Why, other than Appellants' teachings, would one of skill in the art reach such a conclusion? Indeed, where does the prior art mention or suggest the importance of interstitial spaces, let alone particularly sized interstitial spaces resulting from the selection of a particularly sized particles? Brownawell addresses the issue of contact time by the depth of the filter media bed and makes no mention of particle size (col. 6, lines 37-45). In contrast, the size of the Applicants' required interstitial spaces allows for a particular amount of contact as the oil circulates through the interstitial spaces.

Appellants can only conclude that since the issue of particle size appears to originate only in the pending application the Examiner has fallen prey to the insidious effects of hindsight. The CAFC has stated "to imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher. *W.L. Gore & Assocs., Inc., v. Garlock*, 220 U.S.P.Q. 303, 312-313. (Fed. Cir. 1983).

Thus, Brownawell fails to disclose a chemically active filter member having the required interstitial spaces therebetween, wherein the size of the interstitial spaces is a result of the particularly selected average particle diameter.

2. Claims 7-10

Independent claim 7 discloses a particular configuration of an oil filter that is nowhere disclosed in Brownawell. For example, claim 7 requires a tapping plate and a mechanically active filter is "spaced away from said tapping plate". In contrast, in Brownawell, the inactive filter

media 12 is adjacent to the upper surface of the housing 4.

Claims 8-10 incorporate the limitations of independent claim 7 and are thus also patentable over Brownawell.

3. Claim 18

Independent claim 18 adds additional limitations to independent claim 1. These additional limitations are not taught in the prior art.

Specifically, claim 18 teaches an additional limitation that the individual particles have a high (90-97 percent concentration) of beneficial additive in the particles. As discussed in Appellants' Specification, Appellants use a solvent based method for forming particles which allows high concentration of beneficial additive particles and low concentrations of binders (Appellants' Specification, p. 10, line 23 to p. 9 line 4). Independent claim 18 requires particles that comprise from 90 to 97% by weight of a beneficial additive comprising at least one of an antioxidant, an anti-wear agent, a basic salt, or a mixture thereof.

a. Brownawell does not disclose all claim limitations, specially the high concentration of beneficial additive particles required in claim 18.

The PTO relies on a reference that does not teach producing particles by the specific method of taught by Appellants specification and therefore would not have the high concentration of beneficial additive particles as taught and disclosed by Appellants specification.

The PTO continues to hold that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the recited amount of beneficial additive in the reference particles, in order to ensure that a sufficient amount of additive is present in these particles to adequately rejuvenate the oil under going treatment."

Further, the PTO states "Appellants should note that the particles in the chemically active filter member of Brownawell '799 must inherently have **some** percentage of beneficial additive; and that one of ordinary skill in the oil treatment art would readily recognize that particles having a greater concentration of beneficial additive would be more efficient in treating oil than would particles having a lesser concentration of additive (See Office Action of 8/25/2006, page 5).

However, a rational to justify a modification does not take the place of the suggestion in the prior art to make such a modification. There must be a teaching in the *prior art* for the

proposed combination or modification to be proper. *In re Newell*, 13 U.S.P.Q.2d 1248 (Fed Cir. 1989), *emphasis added*. Even if the teachings of a primary reference could be modified to arrive at the claimed subject matter, the modification is not obvious unless the prior art also suggests the *desirability* of such a modification. *In re Laskowski*, 10 U.S.P.Q.2d 1397, 1398 (Fed Cir. 1989).

Appellants respectfully submit that since Brownawell '799 does not teach Appellants' specific low solvent process for producing individual particles having a high concentration of additives or the desirability of such a high concentration. Therefore, one of ordinary skill in the art would not read Brownawell to teach or suggest the required 90-97 percent concentration.

Finally, Applicants note that the high concentration level of claim 18 may not be ignored.

b. There is no expectation of success for the proposed modification of Brownawell.

Appellants note that there is no expectation of success in Brownawell for using a 90-97 percent concentration of beneficial additives. While the Examiner has asserted that it's obvious that a higher percentage is better it appears the Examiner has failed to fully consider the implications of using such a high percentage of additives – notably the rate of release, potential unwanted side reactions depending on concentration and the like.

Appellants respectfully assert that in the absence of a teaching with regard to concentration there can be no expectation of success due to the unpredictability of the system – a lubricating oil (at times a hot lubricating oil), additives and oil degradation by products. In chemical processes the adage "more is better" is not always true as an excess of a particular reagent in some systems can cause a different reaction to occur.

Accordingly, Brownawell fails to disclose or suggest all of the required claim limitations.

B. Claims 3, 13-15 and 17 are Non-Obvious over Brownawell and DeJovine.

1. Claim 3

DeJovine discloses compositions comprising solid particles combined with a solid thermoplastic polymer having a controlled rate of dissolution in lubricating oil (abstract). The solid particles include materials known to provide improved lubricating properties to the lubricating oil (col. 4, lines 51-58). The thermoplastic polymer may be chosen from a range of

materials including ethylene-propylene copolymers, polymethacrylates, polystyrene and partially hydrogenated block copolymers (col. 3, lines 18-56). The composition of solid particles and thermoplastic polymer may comprise additional additives and is molded into the form of a disc which is placed in an oil filter (col. 12, lines 11-56).

The secondary reference DeJovine is relied upon for its disclosure of a relatively insoluble polymer support media. Claim 3 continues to stand rejected on the grounds that it "would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the polyolefin of DeJovine as the 'polymer matrix' of Brownawell '799 since this polyolefin is capable of supporting the calcium carbonate or calcium hydroxide of this primary reference in the required manner" (Office Action dated August 25, 2006, page 3).

The teachings of DeJovine fail to rectify the above noted deficiencies of Brownawell '799 in regards to the elements of independent claim 1 as discussed above in Section A. DeJovine, while disclosing a single composition which may be chemically active and release beneficial additives, does not teach or suggest using this composition in particle form – only in disc form. As such DeJovine cannot teach the average particle sizes that are lacking in Brownawell or remedy the fact that Brownawell fails to teach a chemically active filter member comprising particles that release beneficial additives.

Because claim 1 is nonobvious over the cited combination as discussed above, it is submitted that claim 3 is likewise nonobvious.

2. Claims 13-15

Independent claim 13 discloses a supplemental cartridge for use with an oil filter. The inventions of claim 13 and dependent claim 14-15, are similar to independent claim 1 in that they likewise require the use of a chemically active filter member having a plurality of particles wherein the particles have an average diameter of from 0.1 to 6 millimeters. Claim 13 also requires that the beneficial additive consist essentially of at least one of an antioxidant or a mixture of a basic salt and an antioxidant. As discussed above in B1 the combination of Brownawell and DeJovine does not teach Applicants' required average particle diameter and DeJovine does not remedy the fact that Brownawell fails to teach a chemically active filter member comprising particles that release beneficial additives.

Furthermore, the Examiner has failed to establish a prima facie case of obviousness by failing to demonstrate where the structural limitations of claims 13-15 are taught by the prior art. To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (C.C.P.A. 1974); MPEP 1243.03. However, this required showing is absent in the PTO's Office Action of (8/25/2006) along with previous office actions.

The combination of Brownawell and DeJovine fails to disclose the particular structural aspects of independent claim 13. For example, claim 13 requires a tapping plate and a mechanically active filter that is "spaced away from said tapping plate". However, Brownawell does not teach or suggest having a tapping plate and a mechanically active filter that is "spaced away from said tapping plate". In particular, Brownawell only seems to teach filter elements being disposed adjacent to tapping plates (see, e.g., Figure 2 and column 4, line 50 – column 6 lines 10). Further, these structural limitations are absent in DeJovine. The only teaching of DeJovine is of a filter element 4 which does not appear to be spaced away from a tapping plate (See Figures 1 and 2 of DeJovine).

3. Claim 17

It is also noted that claim 17, similar to claim 3, depends from claim 1 and requires that the beneficial additive comprise at least one of a group of particularly selected antioxidants. While DeJovine teaches at least one antioxidant in this group (col. 11, lines 40-63), this teaching does not overcome the deficiencies of the combination of DeJovine and Brownawell as pointed out in Section B1 with regard to claim 3.

C. Claim 4 is Non-Obvious over Brownawell and Bilski.

Bilski discloses a delivery system for PTFE. As noted in col 2, lines 48-61, the PTFE colloidal suspension is displaced by the incoming oil at first engine start up. Thus, the one time delivery system of Bilski fails to satisfy the basis requirements of Appellants' claimed oil filter, i.e., that the beneficial additive be released as oil *circulates* through the filter.

Moreover, Bilski teaches that small particle size is crucial to having the PTFE completely

displaced by the incoming oil. One of skill in the art would thus expect that small particles sizes would teach away from the retention of particles in a chemically active filter member as is required in Appellants' independent claim 1.

Claim 4 depends from claim 1 and contains all the limitations of claim 1. It is respectfully submitted that Bilski cannot rectify the above noted deficiencies of Brownawell with regard to claim 1. Because claim 1 is nonobvious over the cited combination, it is submitted that claim 4 is likewise nonobvious.

The PTO has indicated that Bilski is only relied upon for the location of the chemical adding element radially and coaxially inside a mechanically active filter element and hence has not given any weight to remainder of Bilski's teaching. However, the PTO may not ignore those portions of a reference that lead one of skill in the art away from a claimed invention. The Federal Circuit has specifically prohibited such actions. A reference that leads one of ordinary skill in the art away from the claimed invention cannot render it unpatentably obvious. *Dow Chem. Co. v. American Cyanamid Co.* 2 U.S.P.Q.2d 1350 (Fed. Cir. 1987).

D. Claim 16 is Non-Obvious over Brownawell, DeJovine and Robers.

Robers discloses a bypass valve for use with a donut oil cooler. Robers is silent with regard to chemically active filter members, physically active filter media, and average particle size. Claim 16 is dependent upon independent claim 13 and incorporates all of the limitations thereof. It is respectfully submitted that Robers fails to rectify the above noted deficiencies of Brownawell and DeJovine in regard to Appellants' claim 13 (section B2). Because the references fail to teach all the limitations of claim 16, Appellants must conclude that claim 16 is non-obvious.

In view of the foregoing, Applicants respectfully request the removal of the instant rejections.

In the event the Examiner has any queries regarding the submitted arguments, the undersigned respectfully requests the courtesy of a telephone conference to discuss any matters in need of attention.

If there are any additional charges with respect to this Appeal Brief, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

Claim 1. An oil filter, comprising:

a hollow housing having an inlet and an outlet and defining a chamber therein with a flow path between the inlet and outlet;

a mechanically active filter member disposed inside the housing in the flow path; and

a chemically active filter member disposed inside the housing in the flow path;

wherein the chemically active filter member comprises a plurality of particles having interstitial spaces therebetween, said particles having an average diameter of from 0.1 to 6 millimeters and being retained in said oil filter, the particles comprising a beneficial additive to be released into engine oil as said engine oil circulates through the interstitial spaces.

Claim 2. The oil filter of claim 1, wherein the beneficial additive comprises a basic salt that is at least one of the group consisting of calcium carbonate, potassium carbonate, potassium bicarbonate, aluminum dihydroxy sodium carbonate, magnesium oxide, magnesium carbonate, zinc oxide, sodium bicarbonate, sodium hydroxide, calcium hydroxide, potassium hydroxide, and mixtures thereof.

Claim 3. The oil filter of claim 1, wherein the particles further comprise a polymeric binder selected from the group consisting of polyamides, polyimides, polyesters, polyolefins, polysulfones, and mixtures thereof.

Claim 4. The oil filter of claim 1, wherein the mechanically active filter element is substantially cylindrical in shape, and wherein the chemically active filter element is also substantially cylindrical in shape and is disposed radially and coaxially inside of said mechanically active filter element.

Claim 5. The oil filter of claim 1, wherein the particles of the chemically active filter member are connected together to form a substantially integral permeable member.

Claim 6. The oil filter of claim 1, wherein the particles are a product of a process comprising the steps of:

providing the polymeric binder in a finely divided form;

mixing the polymeric binder with the additive in a liquid solvent;

forming the mixture of the binder and salt into particles; and

removing the solvent from the particles by evaporation.

Claim 7. An oil filter, comprising:

a hollow housing having a tapping plate for placement proximate an engine surface, said tapping plate having an outlet aperture formed therethrough and an inlet aperture formed therethrough and space apart from said outlet aperture;

a mechanically active filter element disposed within said housing spaced away from said tapping plate;

a substantially cylindrical dividing wall member disposed within said housing adjacent said tapping plate;

said dividing wall member defining an inlet flow channel on the outside thereof within the housing and in fluid communication with said inlet aperture of said tapping plate;

said dividing wall member further defining an outlet flow channel therein in fluid communication with said outlet aperture of said tapping plate; and

a chemically active filter member disposed within said inlet flow channel of said housing between said tapping plate and said mechanical filter element,

said chemically active filter member comprising a plurality of particles retained in said oil filter having a diameter in a range of 0.10 to 6 mm, said particles consisting essentially of a beneficial additive to interact with engine oil as said engine oil circulates through the filter, said beneficial additive consisting essentially of an antioxidant, a basic salt, or a mixture of a basic salt and an antioxidant, said antioxidant being selected from the group consisting of imidazoline-phosphonate salts, substituted triazoles, sulfurized carboxylates, phenolic compounds, arylamino compounds, substituted thiazoles, substituted thiadiazoles; phosphosulfurized olefins, zinc dithiophosphates, and zinc dialkyldithiophosphates, aromatic sulfides, aromatic polysulfides, alkyl

sulfides, alkyl polysulfides, sulfurized olefins, sulfurized carboxylic acid esters, sulfurized ester-olefins, and mixtures thereof.

Claim 8. The oil filter of claim 7, further comprising a foraminous divider disposed between the chemically active filter element and the mechanically active filter element.

Claim 9. The oil filter of claim 7, wherein the particles of the chemically active filter element are a product of a process comprising the steps of:

separating the polymeric binder into a finely divided form;

mixing the polymeric binder with the additive in a liquid solvent;

forming the mixture of binder and additive into particles; and

removing the solvent from the particles by evaporation.

Claim 10. The oil filter of claim 7, wherein the basic salt is selected from the group consisting of calcium carbonate, potassium carbonate, potassium bicarbonate, aluminum dihydroxy sodium carbonate, magnesium oxide, magnesium carbonate, zinc oxide, sodium bicarbonate, sodium hydroxide, potassium hydroxide, calcium hydroxide, calcium hydroxide, and mixtures thereof.

Claim 13. A supplemental cartridge for use in conjunction with an oil filter, said supplemental cartridge comprising:

a hollow housing, comprising:

a tapping plate for placement proximate an engine surface, said tapping plate having an outlet aperture formed substantially centrally therethrough and an inlet aperture formed therethrough and spaced apart from said outlet aperture;

a cap opposite said tapping plate for placement proximate an oil filter, said cap having an inlet aperture formed substantially centrally therethrough and an outlet aperture formed therethrough and spaced apart from said inlet aperture;

an outer wall connecting said cap and said tapping plate;

a substantially cylindrical dividing wall member disposed within said housing and separating said housing interior into an inlet flow channel in fluid communication with said inlet aperture of said

tapping plate, and an outlet flow channel in fluid communication with said outlet aperture of said tapping plate; and

a chemically active filter member disposed within said inlet flow channel of said housing, said chemically active filter member comprising a plurality of particles having a diameter in a range of 0.10 to 6 mm, said particles consisting essentially of a beneficial additive, said beneficial additive consisting essentially of at least one of an antioxidant, or a mixture of a basic salt and an antioxidant.

Claim 14. The supplemental cartridge of claim 13, wherein the basic salt is selected from the group consisting of calcium carbonate, potassium carbonate, potassium bicarbonate, aluminum dihydroxy sodium carbonate, magnesium oxide, magnesium carbonate, zinc oxide, sodium bicarbonate, sodium hydroxide, potassium hydroxide, calcium hydroxide, and mixtures thereof.

Claim 15. The supplemental cartridge of claim 13, wherein the particles of the chemically active filter element are a product of a process comprising the steps of:

separating the polymeric binder into a finely divided form;

mixing the polymeric binder with the additive in a liquid solvent;

forming the mixture of binder and additive into particles; and

removing the solvent from the particles by evaporation.

Claim 16. The supplemental cartridge of claim 13, further comprising:

an auxiliary inlet tube attached to said outer wall of said housing and being in fluid communication with said inlet flow channel thereof; and

an auxiliary outlet tube attached to said outer wall of said housing and being in fluid communication with said interior thereof.

Claim 17. The oil filter of claim 1 wherein the beneficial additive comprises an antioxidant that is at least one of the group consisting of imidazoline-phosphonate salts, substituted triazoles, sulfrized carboxylates, phenolic compounds, arylamino compounds, substituted thiazoles, substituted thiadiazoles, phosphosulfurized olefins, zinc dithiophosphates, and zinc

dialkyldithiophosphates, aromatic sulfides, aromatic polysulfies, alkyl sulfides, alkyl polysulfides, sulfurized olefins, sulfurized carboxylic acid esters, sulfurized ester-olefins, and mixtures thereof.

Claim 18. An oil filter, comprising:

a housing defining an inlet fluid opening and an outlet fluid opening, said inlet fluid opening and said outlet fluid opening defining a fluid path through said housing;

a mechanically active filter member disposed inside the housing, said mechanically active filter being disposed in said fluid path such that fluid flowing through said fluid path must pass through said mechanically active filter member; and

a chemically active filter member disposed inside the housing, said chemically active filter being disposed in said fluid path such that fluid flowing through said fluid path must pass through said chemically active filter member;

wherein the chemically active filter member comprises a plurality of particles retained in said oil filter, said particles comprising from 90 to 97% by weight of a beneficial additive to be released into engine oil as said engine oil circulates through the oil filter, based on the total solid weight of the particles, wherein the beneficial additive comprises at least one of an antioxidant, an anti-wear agent, a basic salt, or a mixture thereof.

IX. EVIDENCE APPENDIX

There is no evidence submitted pursuant to 37 C.F.R. §1.130, 37 C.F.R. §1.131, or 37 C.F.R. §1.132 or any other evidence entered by the Examiner and relied upon by the Appellant in this appeal, known to the Appellants, Appellants' legal representatives, or assignee.

X. RELATED PROCEEDING APPENDIX

There are no other related appeals or interferences known to Appellants, Appellants' legal representatives, or assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.